APPENDIX A

Scientific Abstract

We plan to use retroviral vectors to transfer the gamma interferon (γ-IFN) gene into cancer cells from melanoma patients. It is hoped that the resultant expression of γ-IFN from the tumor cells will dramatically improve antigenic presentation by increasing the level of Class I major histocompatability complex (MHC) proteins that present antigen to the immune system. Additionally, subsequent tumor-specific cellular immune activation may be improved by supplying this versatile cytokine, γ-IFN, to immune cells that are essential to combat human cancer.

Short-term tumor cell lines from human melanoma biopsy material will be established. The cell culture will then be transduced with the γ-IFN retroviral vector. After selection for transduced cells by growth in the antibiotic, G418, the cells will be tested for sterility, lethally irradiated so that they can no longer divide, and the γ-IFN-expressing autologous tumor cells will be re-injected into the same patient. The study will determine safety, clinical response (tumor burden), and biological response (immune responses). The resultant increase in specific immunity against the now highly immunogenic gene-modified tumor cells may result in a significant response against the endogenous, unmodified metastatic tumors.